Remarks

Entry of the above-noted amendments, reconsideration of the application, and allowance of all claims pending are respectfully requested. By this amendment, claims 1, 3, 5, 11, 16, 23, 38, 39, 43, 45, 47-53. 59, 61, and 68 are amended and claims 72-81 are added. These amendments to the claims constitute a bona fide attempt by applicants to advance prosecution of the application and obtain allowance of certain claims, and are in no way meant to acquiesce to the substance of the rejections. Support for the amendments can be found throughout the specification (e.g., page 16, line 16 to page 25, line 24), figures (e.g., FIGS. 4, 5-17), and claims. Claims 1-81 are pending.

Interview on March 4, 2004:

The amendments herein follow a telephone conference between the Examiner, the Examiner's Supervisor Zarni Mauag, and Applicants' Attorney on October 7, 2004 in which features of Larson, et al. (WO 00/74409), Lamb et al. (WO 00/79827), and Gallagher, et al. (U.S. Patent No. 5,933,784), and claims 1 and 25, specification, and drawings were discussed. During the telephone conference, positive discussion was had and agreement was reached that:

a. the Examiner and the Examiner's Supervisor suggested language to distinguish the art of record for consideration by the applicants which has resulted in the limitation "without a requirement for any modification to the standard HLR" added to independent claim 1 presented herewith; and

b. the Examiner plans to perform additional searching and should the Examiner locate other prior art considered relevant to the claims the

Examiner will telephone applicants' attorney to discuss an additional amendment if needed to render the claims allowable.

The time and courtesy afforded applicants' attorney as well as the positive discussion and above listed agreements reached, are gratefully acknowledged by applicants.

In addition, applicants have amended the remaining independent claims 5, 25, 39, and 53 presented herewith to recite limitations analogous to the limitation suggested by the Examiner's Supervisor. Applicants have also amended claims 29, 35-36, and 38, claims 47-49 and 51-52, and claims 59 and 61 dependent from independent claims 25, 39, and 53, respectively, presented herewith to coordinate with the above-noted amendment to claims 25, 39, and 53.

Claim Objections

Claim 11 was objected to because of the following alleged informality: "Claim 11 reads '11 The', there should be a period after 11 to read '11. The'." Claim 11 has been amended, as graciously suggested in the Office Action.

Withdrawal of the objection to claim 11 is therefore respectfully requested.

Claim Rejections - 35 U.S.C. § 112

Claims 3 is rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Office Action alleges that the phrase "the at least one query" is indefinite because there is insufficient antecedent basis for "the at least one query." Claim 3 has been amended to replace the cited text with "the requested information."

Claim 16 is rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The Office Action alleges that the phrase "infrastructure device" is indefinite because there is insufficient antecedent basis for "infrastructure device." Claim 16 has been amended to replace "any infrastructure device is" with "the at least two networks comprise."

Withdrawal of the § 112 rejections is therefore respectfully requested.

Claim Rejections - 35 U.S.C. § 103

Claims 1-18 and 22-24 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Larson, et al. (WO 00/74409; "Larson") in view of Lamb et al. (WO 00/79827; "Lamb"). Claims 19-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Larson in view of Lamb and further in view of Le, et al. (U.S. Patent No. 6,556,820; "Le"). Claim 21 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Larson in view of Lamb and further in view of Chambers, et al. (U.S. Patent No. 5,854,982; "Chambers"). Claims 22-43, 45-53, 55-61, and 68-70 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher, et al. (U.S. Patent No. 5,933,784; "Gallagher"). Claim 44 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher and further in view of Valentine, et al. (U.S. Patent No. 6,504,839; "Valentine"). Claim 54 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher and further in view of Larson. Claims 62-63 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher and further in view of Roach, Jr. et al. (U.S. Patent No. 5,526,401; "Roach"). Claim 64 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher in further view

of Henry, et al. (U.S. Patent No. 5,845,215; "Henry"). Claim 65 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher and further in view of Chambers, et al. (U.S. Patent No. 5,845,982; "Chambers"). Claims 66, 67, and 71 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lamb in view of Gallagher and further in view of Hanson (U.S. Patent No. 6,035,025). These rejections are respectfully, but most strenuously, traversed.

Applicants respectfully submit that the Office Action's citations to the applied references, with or without modification or combination, assuming, *arguendo*, that the modification or combination of the Office Action's citations to the applied references is proper, do not teach or suggest one or more elements of the claimed invention, as further discussed below.

For explanatory purposes, applicants discuss herein one or more differences between the Office Action's citations to the applied references and the claimed invention with reference to one or more parts of the applied references. This discussion, however, is in no way meant to acquiesce in any characterization that one or more parts of the Office Action's citations to the applied references correspond to the claimed invention.

CLAIM 1 AND CORRESPONDING DEPENDENT CLAIMS

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied references fails to teach or suggest, for example, the receiver for receiving, from the standard HLR of the requesting network of the at least two requesting networks and without the requirement for any modification to the standard HLR, the network request according to one of at least two network protocols.

Larson (page 5, lines 10-19; FIGS. 3-4) discloses an HLR combined with a gateway:

> Referring to FIG. 3, a block diagram illustrates an improved system in which an HLR is integrated with a gateway, as represented by the HLR-GW block 30. Particularly, in accordance with the invention, the WOS (wireless office system) gateway functionality is combined with an HLR in a single node. This functionality consists of software applications implemented on an integrated processing system in the form of a network server. Referring also to FIG. 4, the HLR-GW 30 includes a home location register (HLR) 32 and a WOS gateway 34. The HLR function 32 stores wireless user subscriber information for use both by the WOS system 10 and the PLMN 12. With the combined functionality ANSI-41 messages from the WOS system 10 are sent directly to the HLR 32 using TCP/IP protocols. Thus, the integrated HLR-GW 30 eliminates one or more physical nodes from prior systems.

Larson discloses elimination of the HLR from the communication system and presents the elimination as an advantage over the prior systems The Office Action's citation to Larson fails to disclose a standard HLR without a requirement for any modification to the standard HLR. Simply missing from the Office Action's citation to Larson is any mention of the receiver for receiving, from the standard HLR of the requesting network of the at least two requesting networks and without the requirement for any modification to the standard HLR, the network request according to one of at least two network protocols.

So, the Office Action's citation to Larson fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citation to Larson relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citation to Larson with a citation to Lamb. However, the Office Action's citation to Lamb does not overcome the deficiency of the Office Action's citation to Larson. Applicants respectfully submit that the proposed combination of the Office Action's citation to Larson with

the Office Action's citation to Lamb fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citation to Larson with the Office Action's citation to Lamb is proper.

Lamb (Abstract; FIG. 1) discloses a universal location service register (ULSR):

> A method and system provide seamless, wireless telecommunication service to customers that move between disparate networks that use different protocols. A Universal Location Service Register (ULSR) communicates and provides mobility management and authentication functions across networks that use different protocols. Instead of associating each MSC with an HLR and an AuC that uses the same messaging protocol as the MSC, each MSC communicates with the ULSR for user information. The ULSR communicates with the MSCs in each network serviced by the ULSR in accordance with the protocol of that network. The ULSR stores user profiles that may include the identity of the user, authentication information for the user's mobile phone, a list of networks the user is authorized to access, and the identity of the MSC at which the user is currently registered.

Lamb discloses the ULSR that communicates with MSCs, instead of the MSCs communicating with an existing HLR. The Office Action's citation to Lamb fails to disclose a standard HLR. Simply missing from the Office Action's citation to Lamb is any mention of the receiver for receiving, from the standard HLR of the requesting network of the at least two requesting networks and without the requirement for any modification to the standard HLR, the network request according to one of at least two network protocols.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Larson and/or Lamb to provide the claimed configuration.

CLAIM 5 AND CORRESPONDING DEPENDENT CLAIMS

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied references fails to teach or suggest, for example, receiving, by the multiple-protocol home location register, the network request from the standard HLR of the requesting network of the at least two networks and without the requirement for any modification to the standard HLR, wherein the network request is composed according to the one of the at least two network protocols.

As discussed above, Larson (page 5, lines 10-19; FIGS. 3-4) discloses the HLR combined with the gateway. Larson discloses elimination of the HLR from the communication system and presents the elimination as an advantage over the prior systems The Office Action's citation to Larson fails to disclose a standard HLR without a requirement for any modification to the standard HLR. Simply missing from the Office Action's citation to Larson is any mention of receiving, by the multiple-protocol home location register, the network request from the standard HLR of the requesting network of the at least two networks and without the requirement for any modification to the standard HLR, wherein the network request is composed according to the one of the at least two network protocols.

So, the Office Action's citation to Larson fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citation to Larson relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citation to Larson with a citation to Lamb. However, the Office Action's citation to Lamb

does not overcome the deficiency of the Office Action's citation to Larson. Applicants respectfully submit that the proposed combination of the Office Action's citation to Larson with the Office Action's citation to Lamb fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citation to Larson with the Office Action's citation to Lamb is proper.

As discussed above, Lamb (Abstract; FIG. 1) discloses the universal location service register (ULSR). Lamb discloses the ULSR that communicates with MSCs, instead of the MSCs communicating with the existing HLR. The Office Action's citation to Lamb fails to disclose the standard HLR. Simply missing from the Office Action's citation to Lamb is any mention of receiving, by the multiple-protocol home location register, the network request from the standard HLR of the requesting network of the at least two networks and without the requirement for any modification to the standard HLR, wherein the network request is composed according to the one of the at least two network protocols.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Larson and Lamb relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Larson and Lamb with a citation to Le. However, the Office Action's citation to Le does not overcome the deficiency of the Office Action's citations to Larson and Lamb. Applicants respectfully submit that the proposed combination of the Office Action's citation to Larson and Lamb with the Office Action's citation to Le fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Larson and Lamb with the Office Action's citation to Le is proper.

Le (column 5, lines 8-26; FIG. 1) discloses a generic GSM network:

> A GSM network is composed of several functional entities, whose functions and interfaces are specified. FIG. 1 shows the layout of a generic GSM network 100. The GSM network 100 can be divided into three broad parts. The Mobile Station 110 is carried by the subscriber. The Base Station Subsystem 112 controls the radio link with the Mobile Station. The Network Subsystem 114, the main part of which is the Mobile services Switching Center/Visitor Location Register (MSC/VLR) 116, performs the switching of calls between the mobile users 110, and between other mobile and fixed network users. The MSC/VLR 116 also handles the mobility management operations. Not shown is the Operations and Maintenance Center, which oversees the proper operation and setup of the network 114. The Mobile Station 110 and the Base Station Subsystem 112 communicate across the Um interface 120, also known as the air interface or radio link. The Base Station Subsystem communicates with the Mobile Switching Center 116 across the A interface 122.

Le discloses the generic GSM network 100. The Office Action's citation to Le fails to disclose a multiple protocol home location register that receives a network request according to one of at least two network protocols. Simply missing from the Office Action's citation to Le is any mention of receiving, by the multiple-protocol home location register, the network request from the standard HLR of the requesting network of the at least two networks and without the requirement for any modification to the standard HLR, wherein the network request is composed according to the one of the at least two network protocols.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Larson and Lamb relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Larson and Lamb with a citation to Chambers. However, the Office Action's citation to Chambers does not overcome the deficiency of the Office Action's

citations to Larson and Lamb. Applicants respectfully submit that the proposed combination of the Office Action's citation to Larson and Lamb with the Office Action's citation to Chambers fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Larson and Lamb with the Office Action's citation to Chambers is proper.

Chambers (abstract) discloses a communication system architecture:

> To alleviate the constraints imposed on communication system management by the assignment of dedicated ranges of MSISDNs and IMSIs to each particular home location register (HLR_1, HLR_2, HLR_n), the present invention provides an ability to separate IMSIs and MSISDNs between HLR platforms by providing at least two databases (80-90) separated from one another and indexed in terms of ranges of MSISDNs and ranges of IMSIs, as illustrated in FIG. 5. A cross-reference (92, 95) is both stored within a particular MSISDN and a particular IMSI to maintain an association therebetween, thereby allowing access to subscription information stored in at least one of the particular MSISDN and the particular IMSI.

Chambers discloses the architecture for MSISDN and IMSI management. The Office Action's citation to Chambers fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Chambers is any mention of receiving, by the multiple-protocol home location register, the network request from the standard HLR of the requesting network of the at least two networks and without the requirement for any modification to the standard HLR, wherein the network request is composed according to the one of the at least two network protocols.

So, the Office Action's citation to Chambers fails to satisfy at least one of applicants' claim limitations.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Larson, Lamb, Le, and/or Chambers to provide the claimed approach.

CLAIM 25 AND CORRESPONDING DEPENDENT CLAIMS

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied references fails to teach or suggest, for example, the mediation device, operably coupled to the first standard HLR and the second standard HLR without the requirement for any modification to the first standard HLR and/or the second standard HLR, wherein the mediation device is arranged and constructed to generate network messages according to the first network protocol and the second network protocol, such that the multiple-protocol HLR provides HLR capability for the plurality of communication devices utilizing any of the first network protocol and the second network protocol.

As discussed above, Lamb (Abstract; FIG. 1) discloses the universal location service register (ULSR). Lamb discloses the ULSR that communicates with MSCs, instead of the MSCs communicating with the existing HLR. The Office Action's citation to Lamb fails to disclose a standard HLR. Simply missing from the Office Action's citation to Lamb is any mention of the mediation device, operably coupled to the first standard HLR and the second standard HLR without the requirement for any modification to the first standard HLR and/or the second standard HLR, wherein the mediation device is arranged and constructed to generate network messages according to the first network protocol and the second network protocol, such that the multiple-protocol HLR provides HLR capability for the plurality of communication devices utilizing any of the first network protocol and the second network protocol.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citation to Lamb relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citation to Lamb with a citation to Gallagher. However, the Office Action's citation to Gallagher does not overcome the deficiency of the Office Action's citation to Lamb. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher is proper.

Gallagher (column 5, line 43 to column 6, line 4; FIGS. 2-3) discloses a signaling gateway that comprises data units for HLRs:

> FIG. 3 is a more detailed illustration of the signaling gateway 202 of the present invention. The gateway unit 206 includes a data unit 302, a processor 304, a controller 309, a network monitoring unit 310, a subscriber unit 312, a network data unit 314, and a call processing unit 316. The gateway HLR unit 204 can include one or more of a DCS1900 HLR data unit 318, an IS-41B HLR data unit 320, and a System 3 HLR data unit 322, for example an IS-41C HLR data unit. In the example illustrated in FIG. 2, the gateway HLR unit 204 is a HLR from the perspective of the visited system MSC/VLR 106A. It is a HLR in that the gateway HLR unit 204 performs the functions of a HLR from the perspective of the visited system MSC/VLR 106A. For example, the visited system MSC/VLR 106A transmits signals to the gateway HLR unit 204 and receives signal from the gateway HLR unit 204 as if the gateway HLR unit were the HLR in the home system. The gateway VLR unit 208 can include one or more of an IS-41B VLR data unit 324, a DCS1900 VLR data unit 326, and a system 3 VLR data unit 328, for example, an IS-41C VLR data unit 328. In the example illustrated in FIG. 2, the gateway VLR unit 208 is a VLR from the perspective of the home system HLR 110B. It is a VLR in that the gateway VLR unit 208 performs the functions of a VLR from the perspective of the home system HLR 110B. For example, the home system HLR 110B transmits signals to the gateway VLR unit 208 and receives signal from the gateway VLR unit 208 as if the gateway VLR unit were the VLR in the MSC/VLR 106A of the visited system.

Gallagher discloses the DCS1900 HLR data unit 318, the IS-41B HLR data unit 320, and the System 3 HLR data unit 322. The HLR data units 318, 320, and 322 perform functions of an HLR for the DCS1900, IS-41B, and System 3 network protocols. The Office Action's citation to Gallagher fails to disclose the standard HLR. Simply missing from the Office Action's citation to Gallagher is any mention of the mediation device, operably coupled to the first standard HLR and the second standard HLR without the requirement for any modification to the first standard HLR and/or the second standard HLR, wherein the mediation device is arranged and constructed to generate network messages according to the first network protocol and the second network protocol, such that the multiple-protocol HLR provides HLR capability for the plurality of communication devices utilizing any of the first network protocol and the second network protocol.

So, the Office Action's citation to Gallagher fails to satisfy at least one of applicants' claim limitations.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Lamb and/or Gallagher to provide the claimed configuration.

CLAIMS 39 AND CORRESPONDING DEPENDENT CLAIMS

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied references fails to teach or suggest, for example, the multiple-protocol home location register, operably coupled to the first standard HLR and the second standard HLR, wherein the multiple-protocol home location register is arranged and

constructed to function according to the first network protocol and the second protocol, such that the call request according to the first network protocol and related to the at least one query is completed according to the second network protocol.

As discussed above, Lamb (Abstract; FIG. 1) discloses the universal location service register (ULSR). The Office Action's citation to Lamb discloses the ULSR that communicates with MSCs, instead of the MSCs communicating with the existing HLR. The Office Action's citation to Lamb fails to disclose a standard HLR. Simply missing from the Office Action's citation to Lamb is any mention of the multiple-protocol home location register, operably coupled to the first standard HLR and the second standard HLR, wherein the multiple-protocol home location register is arranged and constructed to function according to the first network protocol and the second protocol, such that the call request according to the first network protocol and related to the at least one query is completed according to the second network protocol.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citation to Lamb relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citation to Lamb with a citation to Gallagher. However, the Office Action's citation to Gallagher does not overcome the deficiency of the Office Action's citation to Lamb. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher is proper.

As discussed above, Gallagher (column 5, line 43 to column 6, line 4; FIGS. 2-3) discloses a signaling gateway that comprises data units for HLRs. The Office Action's citation to Gallagher discloses the DCS1900 HLR data unit 318, the IS-41B HLR data unit 320, and the System 3 HLR data unit 322. The HLR data units 318, 320, and 322 perform functions of an HLR for the DCS1900, IS-41B, and System 3 network protocols. The Office Action's citation to Gallagher fails to disclose a standard HLR. Simply missing from the Office Action's citation to Gallagher is any mention of the multiple-protocol home location register, operably coupled to the first standard HLR and the second standard HLR, wherein the multiple-protocol home location register is arranged and constructed to function according to the first network protocol and the second protocol, such that the call request according to the first network protocol and related to the at least one query is completed according to the second network protocol.

So, the Office Action's citation to Gallagher fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Valentine. However, the Office Action's citation to Valentine does not overcome the deficiency of the Office Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's citation to Valentine fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Valentine is proper.

Valentine (column 5, lines 36-51; FIG. 2) discloses a standard HLR:

> In the first exemplary system 200, a call request directed to a mobile device 120 from a terminal device 150 is routed through the packet-switched network 110 from the server 112 to the access server 211, which then transmits the call request to the GMSC 231; the call request includes a unique identifier of the mobile device 120, such as the Mobile Station Integrated Service Digital Network (MSISDN). The GMSC 231 then sends an inquiry, including an indication that the call request is from the packet-switched network 110, to a location resource, e.g., HLR 234, to determine the location of the mobile device 120 having the unique identifier; the inquiry may, for example, be of the form Send_Routing_Information (VoIP). The HLR 234 queries a database using the unique identifier, wherein the database includes an association between the unique identifier and the serving node, e.g., MSC 232, of the wireless telecommunications network 130 in communication with the mobile device 120. Once the serving node, e.g., MSC 232, of the wireless communications network 230 in communication with the mobile device 120 has been identified, it is then determined whether that MSC is coupled to the packet-switched network 110.

Valentine discloses the standard HLR. The Office Action's citation to Valentine fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Valentine is any mention of the multiple-protocol home location register, operably coupled to the first standard HLR and the second standard HLR, wherein the multiple-protocol home location register is arranged and constructed to function according to the first network protocol and the second protocol, such that the call request according to the first network protocol and related to the at least one query is completed according to the second network protocol.

So, the Office Action's citation to Valentine fails to satisfy at least one of applicants' claim limitations.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Lamb, Gallagher, and/or Valentine to provide the claimed configuration.

CLAIM 53 AND CORRESPONDING DEPENDENT CLAIMS

Applicants respectfully submit that the Office Action's citations to the applied references do not teach or suggest one or more elements of the claimed invention. A careful reading of the Office Action's citations to the applied references fails to teach or suggest, for example, processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

As discussed above, Lamb (Abstract; FIG. 1) discloses the universal location service register (ULSR). Lamb discloses the ULSR that communicates with MSCs, instead of the MSCs communicating with the existing HLR. The Office Action's citation to Lamb fails to disclose a standard HLR. Simply missing from the Office Action's citation to Lamb is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Lamb fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citation to Lamb relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of

the citation to Lamb with a citation to Gallagher. However, the Office Action's citation to Gallagher does not overcome the deficiency of the Office Action's citation to Lamb. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citation to Lamb with the Office Action's citation to Gallagher is proper.

As discussed above, Gallagher (column 5, line 43 to column 6, line 4; FIGS. 2-3) discloses the signaling gateway that comprises data units for HLRs. The Office Action's citation to Gallagher discloses the DCS1900 HLR data unit 318, the IS-41B HLR data unit 320, and the System 3 HLR data unit 322. The HLR data units 318, 320, and 322 perform functions of the HLR for the DCS1900, IS-41B, and System 3 network protocols. The Office Action's citation to Gallagher fails to disclose a standard HLR. Simply missing from the Office Action's citation to Gallagher is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Gallagher fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Larson. However, the Office Action's citation to Larson does not overcome the deficiency of the Office

Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's citation to Larson fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Larson is proper.

As discussed above, Larson (page 5, lines 10-19; FIGS. 3-4) discloses the HLR combined with the gateway. Larson discloses elimination of the HLR from the communication system and presents the elimination as an advantage over the prior systems The Office Action's citation to Larson fails to disclose a standard HLR without a requirement for any modification to the standard HLR. Simply missing from the Office Action's citation to Larson is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Larson fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Roach. However, the Office Action's citation to Roach does not overcome the deficiency of the Office Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's

citation to Roach fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Roach is proper.

Roach (abstract; FIG. 1) discloses a paging acknowledgement system:

> A paging acknowledgement system is provided for communicating both (1) paging messages and (2) acknowledgement messages to confirm reception of the paging messages. The paging acknowledgement system includes at least one communications system, remote communications devices, and at least one MSC of a CMR system. In response to a paging message from a paging party, the communications system transmits data messages corresponding to the paging message via a communications link. The data message contains the type of data that is normally supplied with a conventional paging message and an acknowledgment code that uniquely identifies said data message. A remote communications device responds to a data message containing its particular address by transmitting an acknowledgment message containing the acknowledgment code to the MSC via a cellular network control channel of the CMR system. The MSC forwards the acknowledgment message to the communications system via a first communications link. The data collection system confirms reception of the data message by comparing the acknowledgment code of the acknowledgment message to the acknowledgment codes associated with the paging messages.

Roach discloses the paging acknowledgement system. The Office Action's citation to Roach fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Roach is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Roach fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Henry. However, the Office Action's citation to Henry does not overcome the deficiency of the Office Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's citation to Henry fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Henry is proper.

Henry (column 10, line 66 to column 11, line 17; FIG. 1) discloses a system for communication between a mobile station and a base station:

> This invention is directed to implementing protocols and procedures for connectionless communication between the mobile station and the base station. In particular, the invention is directed to an air interface protocol and the associated mobile station procedures required for packet data that are based on IS-136. The protocol and procedures for one aspect of this invention resemble the digital control channel (DCCH) operation of IS-136 because IS-136 was designed to provide connectionless transmission of a point-to-point short message service on the DCCH. The IS-136 protocol and procedures have been expanded to support packet-oriented services in embodiments of Applicants' invention. More generally, the invention is directed to communication between a base station and network entities using any standardized or proprietary packet network or using a connection oriented protocol because no assumptions have been made about the network. The network aspect of the CDPD specification is one example that can be used in implementing this invention.

Henry discloses the air interface protocol for mobile stations. The Office Action's citation to Henry fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Henry is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Henry fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Chambers. However, the Office Action's citation to Chambers does not overcome the deficiency of the Office Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's citation to Chambers fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Chambers is proper.

As discussed above, Chambers (abstract) discloses a communication system architecture. Chambers discloses an architecture for MSISDN and IMSI management. The Office Action's citation to Chambers fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Chambers is any mention of processing, by the multiple-

protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Chambers fails to satisfy at least one of applicants' claim limitations.

The shortcomings of the Office Action's citations to Lamb and Gallagher relative to certain elements of the claimed invention have been discussed above. The Office Action proposes a combination of the citations to Lamb and Gallagher with a citation to Hanson. However, the Office Action's citation to Hanson does not overcome the deficiency of the Office Action's citations to Lamb and Gallagher. Applicants respectfully submit that the proposed combination of the Office Action's citation to Lamb and Gallagher with the Office Action's citation to Hanson fails to provide the required approach, assuming, *arguendo*, that the combination of the Office Action's citations to Lamb and Gallagher with the Office Action's citation to Hanson is proper.

Hanson (abstract; FIG. 1) discloses a method for prepaid bundled telecommunications services:

> A method for prepaid bundled telecommunications services includes the steps of recognizing a prepaid account access call at a telecommunications carrier switch, and routing the prepaid account access call to a prepay call management platform coupled to the telecommunications carrier switch. An account number and an optional personal identification number associated with a prepaid bundled telecommunications service account are collected and verified. A destination number is then collected. An account balance associated with the prepaid bundled telecommunications service account is obtained from a database, and a method of

> computing charges associated with terminating the call to the collected destination number is determined. Next, whether the prepaid account contained sufficient funds to pay for the call is determined. The call is released to the telecommunications carrier switch for line termination, and the call is monitored for call completion. The charges associated with the call are then posted to the prepaid account.

Hanson discloses the steps for prepaid bundled telecommunications services. The Office Action's citation to Hanson fails to disclose a multiple protocol home location register. Simply missing from the Office Action's citation to Hanson is any mention of processing, by the multiple-protocol home location register, the first network protocol query, thereby generating the second network protocol message and sending the second network protocol message to the second standard HLR of the destination network for the second infrastructure device functioning according to the second network protocol and without the requirement for any modification to the second standard HLR.

So, the Office Action's citation to Hanson fails to satisfy at least one of applicants' claim limitations.

Furthermore, the Office Action does not allege that the art of record provides any teaching, suggestion, or incentive for modifying the citations to Lamb, Gallagher, Larson, Roach, Henry, and/or Hanson to provide the claimed approach.

For all the reasons presented above with reference to claims 1, 5, 25, 39, and 53, claims 1, 5, 25, 39, and 53 are believed neither anticipated nor obvious over the art of record. The corresponding dependent claims are believed allowable for the same reasons as independent claims 1, 5, 25, 39, and 53, as well as for their own additional characterizations.

Withdrawal of the § 103 rejections is therefore respectfully requested.

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney.

Respectfully submitted,

Robert J. Brill

Robert J. Brill
Attorney for Applicants
Reg. No. 36,760

Dated: October 12, 2004

PATTI & BRILL, LLC
Customer Number 32205